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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/786,342	02/25/2004	Robert W. Byren	PD-03W088	4554

7590 06/05/2006

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EXAMINER
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ULLAH, AKM E

ART UNIT	PAPER NUMBER
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2874

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/786,342

Applicant(s)

BYREN ET AL

Examiner

Akm Enayet Ullah

Art Unit

2874

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

***Detailed Action***

*Applicant cooperation is requested in correcting any errors of which applicant may become aware in the specification.*

***Status of the Application***

*Claims 1- 21 are pending in this application.*

*If applicant is aware of any prior art or any other co- pending application not already of record, he/she is reminded of his/her duty under 37 CFR 1.56 to disclose the same.*

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Avizonis et al (USP NO. 6,965,469) .

Avizonis et al (USP NO. 6,965,469) reference disclose an active photonic band gap optical fiber i.e., a photonic band gap light guide having core and cladding, a stimulated Brillouin scattering medium which is gas or gel or liquid or solid disposed into the light guide, a focusing lens which is adapted to focus on light guide (optical fiber), an array of channels disposed about core, the optical has a hollow core, cladding is a microstructure silica fiber and the fiber is disposed in a stimulated Brillouin scattering cell.

***The use of Bragg photonic band gap is known in this art.***

***The above mentioned reference is the evidence that ordinary skill in the art would find a reason, suggestion or motivation to have Bragg photonic band gap guidance.***

***One of ordinary skill in the art would found it obvious to use the Bragg photonic band gap guidance since column 6, first paragraph mentioned regarding grating in Avizonis et al .***

***It is noted that applicant has not described such (Bragg photonic band gap guidance) as being critical or yielding unexpected benefits. Certainly a person of ordinary skill in the art would find it beneficial to achieve a stimulated brillouin scattering phase conjugate mirror by utilizing Bragg photonic band gap guide.***

***The use of a phase conjugate mirror having a stimulated Brillouin medium disposed in operational to light guide is very well known in this optical waveguide art as is evidence by Avizonis et al.***

***One of ordinary skill in the art would have found it obvious to use the phase conjugate mirror having a stimulated scattering medium disposed in operational relation to light guide in Avizonis et al since Sen et al has the ability to reduce the threshold power requirements significantly to enhance the efficiency and improve the phase conjugation fidelity of the Brillouin process.***

***Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new ground(s) of rejection.***

#### ***Cited Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Oron et al (USP NO. 6,847,477 is cited to show the use of stimulated Brillouin scattering (SBS) medium .

Grier et al (USP Pub. no. 2004/02037922) and Matsuura et al (USP NO. 6, 961, 501) are cited to show a typical microstructured optical fiber and a photonic crystal gain medium respectively.

Klocek et al (USP NO. 6,778,722) shows a typical switching optical signals with a photon band gap device.

### ***Contact Information***

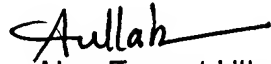
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Akm Enayet Ullah whose telephone number is 571-272-2361. The examiners can normally be reached on Monday through Wednesday from 5:30 am to 4:00 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick, can be reached on Monday through Friday whose telephone number is 571-272-2344. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

Art Unit: 2874

you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Akm Enayet Ullah  
Primary Examiner  
Art Unit 2874

*Aullah*

*January 09, 2006*